

**REMARKS**

Applicant has amended the claims to further clarify the present claimed method.

As now claimed, independent claim 37 is to a method of forming a plurality of wiring lines on conductive material on a board, that has a core layer, to form a printed circuit board. The method requires forming the plurality of wiring lines on a surface of the core layer, having first and second portions, with the plurality of wiring lines formed on the surface of the core having side walls of a uniform thickness in height relative to the surface of the core layer. The first portion of a first of the plurality of wiring lines is etched, such that the first portion has a planar surface completely across the first portion, joining the side walls, and is thinner in height relative to the surface of the core layer than the second portion, such that cross-talk noise between adjacent two wiring lines is reduced.

The claimed method is not taught or suggested in the references cited or any combination thereof.

Reconsideration and removal of the rejection of Applicant's claims under 35 U.S.C. §103(a) as obvious in view of a combination of Barber (U.S. 4,701,363) and Seo et al. (U.S. 5,757,069) are respectfully requested in view of the present amendment to the claims and the following remarks.

In the rejection, the Office Action alleges that Barber shows etching of a lead to form depressions 25 and that Fig. 9 of Barber shows a first portion 43 to be planar, although not extending completely across the first portion to join the side walls. Seo is then cited as disclosing (Fig. 2) etching an inner lead 12 to form a planar surface or groove 15 completely across to join side walls,

and it is alleged that it would be obvious to combine Barber and Seo to arrive at the present claimed method.

In summary, Barber intentionally produces a U-shaped structure to provide improved stiffness for a thinned web, while Seo's specific object is to provide a semiconductor lead frame and packaging method to improve adhesion between a lead frame and an insulating adhesive film.

Barber and Seo are devoid of any teachings as to how to reduce crosstalk noise. Why would one ignore Barber's teaching as to the need for a U-shape and look to Seo? Only after review of Applicant's disclosure and specific process steps might one even conceivably put together portions of the disparate references, as is done in the Office Action.

The present claimed method is for producing a printed circuit board that has reduced crosstalk noise generated between adjacent two of a plurality of wiring lines spaced on a printed circuit board.

As Applicant has previously pointed out, Barber specifically requires a structure of a U shape, with a web section 36 where the etching process "provides a unique channel beam configuration for the web cross section, as shown in FIG. 9 ..." (Col. 9, lines 20-23), the purpose of which is to provide improved stiffness for the thinned web.

The Seo reference merely shows a plating groove 15 preferably formed by a pressing process or a half etching process. The purpose of Seo is to form a plating groove on the upper surface of on end portion of a lead frame and set a plating layer in the plating groove to eliminate the height difference and uniformly distribute the pressing force during adhesion of an insulating film.

Applicant does not believe that one skilled in the art would be led to combine the disparate teachings of Barber and Seo, absent first reviewing Applicant's specification. There is no suggestion or motivation in either of the references to modify either reference or combine their teachings to arrive at Applicant's claimed method.

There is no suggestion in the Seo reference that would lead one to combine the teachings of that reference with Barber. Absent an initial review of Applicant's specification, one skilled in the art would not be led to combine Seo with Barber. As the U.S. Court of Appeals Federal Circuit stated in In re Rouffet, 47 USPQ 2<sup>nd</sup>, 1453: "... this court requires the examiner to show a motivation to combine the references that create the case of obviousness." and "... this court forbids the use of hindsight in the selection of references that comprise the case of obviousness."

There is simply no teaching or suggestion in either reference that use of Applicant's method would produce a high-density printed circuit board with reduced crosstalk noise between adjacent two wiring lines. Barber merely teaches a process for step etching a metal tape adapted for use in tape automated bonding, while Seo teaches a semiconductor packaging method where the assembly process uses a tape adhesion method with uniform pressing forces to prevent non-adhesion portions.

Absent Applicant's disclosure, one would not be led to combine these disparate teachings with an expectation that a high-density printed circuit board could be produced having reduced crosstalk noise between adjacent two wiring lines. There is no teaching of suggestion in either of the two references that they could or should be combined.

U.S. Patent Application Serial No. **09/928,441**  
Reply to Office Action of **April 23, 2004**

Applicant has emphasized the reduction of crosstalk noise between two adjacent wiring lines resulting from Applicant's method in the present amendment to the claims.

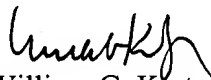
In view of the aforementioned amendments and accompanying remarks, claims 37 and 38, as amended, are believed to be in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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